

DUKE ENERGY CORPORATION

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-9

1. The U.S. Nuclear Regulatory Commission (Commission), having previously made the findings set forth in License No. NPF-9 issued on June 12, 1981, has now found that:
  - A. The application for renewed operating license filed by the Duke Energy Corporation (Duke or the licensee) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I and all required notifications to other agencies or bodies have been duly made;
  - B. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1), and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21 (c), such that there is reasonable assurance that the activities authorized by the renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the McGuire Nuclear Station, Unit 1 (facility or plant), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
  - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
  - D. There is reasonable assurance: (i) that the activities authorized by this renewed operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - E. The licensee is technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
  - F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public;

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- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. NPF-9 is in accordance with 10 CFR Part 51, of the Commission's regulations and all applicable requirements have been satisfied; and,
  - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed operating license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
2. Based on the foregoing findings, and pursuant to approval by the Nuclear Regulatory Commission at a meeting on June 9, 1981, the License for Fuel-Loading and Zero Power Testing issued on January 23, 1981, as amended, is superseded by Renewed Facility Operating License No. NPF-9 which is hereby issued to the Duke Energy Corporation to read as follows:
- A. This renewed operating license applies to the McGuire Nuclear Station, Unit 1, a pressurized water reactor and associated equipment (the facility) owned by the Duke Energy Corporation (licensee). The facility is located on the licensee's site in Mecklenburg County, North Carolina, on the shore of Lake Norman approximately 17 miles northwest of Charlotte, North Carolina and is described in Duke Energy Corporation's Updated Final Safety Analysis Report, as supplemented and amended, and in its Environmental Report, as supplemented and amended.
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Duke:
    - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location in Mecklenburg County, North Carolina, in accordance with the procedures and limitations set forth in the renewed operating license;
    - (2) Pursuant to the Act and 10 CFR Part 70 to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
    - (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
    - (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material

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without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;

- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of McGuire Nuclear Station, Units 1 and 2, and;
- (6) Pursuant to the Act and 10 CFR Parts 30 and 40, to receive, possess and process for release or transfer such byproduct material as may be produced by the Duke Energy Corporation Training and Technology Center.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at a reactor core full steady state power level of 3411 megawatts thermal (100%).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 217, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than June 12, 2021, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

(4) Fire Protection Program

Duke Energy Corporation shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the SER dated March 1978 and Supplements 2, 5 and 6 dated March 1979, April 1981, and February 1983, respectively, and the safety evaluation dated May 15, 1989, subject to the following provision:

Duke may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(5) Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 200, are hereby incorporated into this renewed operating license. Duke Energy Corporation shall operate the facility in accordance with the Additional Conditions.

(6) Antitrust Conditions

The license shall comply with the antitrust conditions delineated in Appendix C of this renewed operating license.

D. Physical Protection

Duke Energy Corporation shall fully implement and maintain in effect all provisions of the Commission-approved nuclear security and contingency, guard training and qualification plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan, which contains safeguards information protected under 10 CFR 73.21, is entitled: "Nuclear Security and Contingency Plan," Revision 12, as revised per 10 CFR 50.54(p). The plan which does not contain safeguards information is entitled "Nuclear Security Training and Qualification Plan," Revision 6, as revised per 10 CFR 50.54(p). Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

- E. The licensee shall report any violations of the requirements contained in Section 2 Items C.(1), C.(4) and D of this renewed operating license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the Director of the Regional Office, or his designate, no later than the first working day following the violation, with a written follow-up report within 14 days.
- F. The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- G. The licensee is authorized to receive from the Oconee Nuclear Station, Units 1, 2, and 3, possess, and store irradiated Oconee fuel assemblies containing special nuclear material, enriched to not more than 3.24% by weight U-235 subject to the following conditions:
  - a. Oconee fuel assemblies may not be placed in the McGuire Nuclear Station, Unit 1 and 2, reactors.
  - b. Irradiated fuel shipped to McGuire Nuclear Station, Units 1 and 2, from Oconee shall have been removed from the Oconee reactor no less than 270 days prior to shipment.
  - c. No more than 300 Oconee irradiated fuel assemblies shall be received for storage at McGuire Nuclear Station.
  - d. Burnup of Oconee fuel shipped shall be no greater than 36,000 MW days per metric ton.
  - e. Receipt of irradiated Oconee fuel shall be limited by the use of the NFS-4 (NAC-1), NLI-1/2, TN-8, or TN-8L spent fuel casks.
  - f. The spent fuel pool crane travel shall be restricted by administrative controls to the paths required by Selected Licensee Commitment 16.9.20 whenever a spent fuel cask is being handled.
  - g. Oconee fuel assemblies may not be transferred from one McGuire spent fuel pool to the other.
- 4. This renewed operating license is effective as of the date of issuance and shall expire at midnight on June 12, 2041.

FOR THE NUCLEAR REGULATORY COMMISSION

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Attachment:

1. Appendix A - Technical Specifications
2. Appendix B - Additional Conditions
3. Appendix C - Antitrust Conditions

Date of Issuance: